

# Radiographs

## Nine-Mile Antenna Gets Transatlantic Radio Signals

BY PAUL F. GODLEY  
America's Foremost Radio Authority

An antenna nine miles long! That's the size of an aerial used on Long Island for trans-Atlantic radio reception. But it is only 15 feet high.

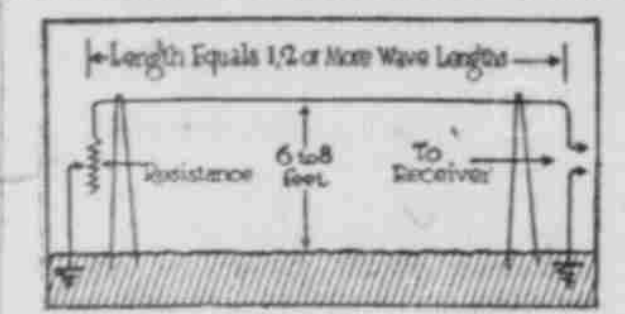


GODLEY

It is of the type known as the "wave-wire" antenna, used in long-distance reception because it comes nearer eliminating static interference than any other form known. Like any of the long-wire type of antenna, it receives best only from those directions toward which it points.

When but one wave length long, the wire is quite directional in its characteristics. When two wave lengths long, it is decidedly more directional. The longer it is, the more desirable it becomes as an antenna designed to receive but from one fixed station.

As installed on the Atlantic coast for European communications, little



difficulty is now had because of static except that due to local thunderstorms. Even these effects are dodged by the association of several stations spread along the coast from Asbury Park, N. J., to Bar Harbor, Me.

Most thunderstorms originate over land and pass out to sea. Thunderstorms which prevent operation of the stations on the Jersey coast are unrecorded at Bar Harbor because of the directional characteristics of the antenna there. Thunderstorms at Bar Harbor are usually of insufficient intensity to affect operation on the Jersey coast.

Since all these stations are connected by telegraph, it becomes an easy matter then to shift operations from one to the other. In this way European traffic comes through with but few interruptions.

## Canaries Give Radio Concert



Radio fans in the San Francisco district recently had the opportunity to tune in on a unique concert given by a group of trained canaries. The birds were trained under the direction of Prof. A. H. Hazlett of Berkeley. Due to the delicate tones of the birds, only those fans with sensitive receivers could pick up the concert, for tuning was necessary.



BEGIN HERE TODAY

The body of the ne'er-do-well brother, ROBERT ABLETT, was found on the floor of the locked office of The Red House, and MARK ABLETT, bachelor proprietor of the country estate, was nowhere to be found. In the eyes of Inspector Birch, it was clear that Mark had shot Robert, particularly since everyone knew that Mark learned with disgust and annoyance of Robert's return from his 15-year stay in Australia.

But the circumstances were mysterious. The shot was heard two minutes after Robert's arrival, and when ANTHONY GILLINGHAM, a gentleman adventurer, entered the house to visit Mark's guest, BILL BEVERLEY, he found MATT CAYLEY, Mark's constant companion, pounding on the locked door and demanding admittance. The two men entered through a window and found the body. How could Mark have locked the door if the keys were on the outside? puzzled Anthony. He discussed some of the mysterious clues with Bill Beverley.

GO ON WITH THE STORY

Anthony smoked thoughtfully for a little. Then he took his pipe out of his mouth and turned to his friend. "Are you prepared to be the complete Watson?" he asked. "Watson?" "Do you follow me, Watson; that one. Are you prepared to have quite obvious things explained to you, to ask futile questions, to give me chances of scoring off you. Because it all helps."

"My dear Tony," said Bill delightedly, "need you ask?" Anthony said nothing, and Bill went on happily to himself. "I receive from the strawberry-mark on your shirt-front that you had strawberries for dessert. Holmes, you astonish me. Tut, tut, you know my methods. Where is the tobacco? The tobacco is in the Persian slipper. Can I leave my practice for a week? I can."

ter of course, and knew that there were 17. And that was supposed to be the difference between observation and non-observation. Watson was crushed again, and Holmes appeared to him more amazing than ever. Now, it always seemed to me that in that matter Holmes was the ass, and Watson the sensible person. What on earth is the point of keeping in your head an unnecessary fact like that? If you really want to know at any time the number of steps to your lodging, you can ring up your landlady and ask her. I've been up and down the steps of the club a thousand times, but if you asked me to tell you at this moment how many steps there are I couldn't do it. Could you?"

"I certainly couldn't," said Bill. "But if you really wanted to know," said Anthony casually, with a sudden change of voice, "I could find out for you without even bothering to ring up the hall-porter." Bill was puzzled as to why they were talking about the club steps, but he felt it his duty to say that he did want to know how many there were.

"Right," said Anthony. "I'll find out." He closed his eyes. "I'm walking up St. James' Street," he said slowly. "Now I've come to the club and I'm going past the smoking-room windows—one-two-three-four. Now I'm at the steps. I turn in and begin going up them. One—two—three—four—five—six, then a broad step; six—seven—eight—nine, another broad step; nine—ten—eleven. Eleven—I'm inside. Good morning, Rogers. Fine day again." With a little start he opened his eyes and came back to his present surroundings. He turned to Bill with a smile. "Eleven," he said. Count them the next time you're there. Eleven—and now I hope I shall forget it again."

Bill was distinctly interested. "That's rather hot," he said. "Ex-pounded." "Well, I can't explain it, whether it's something in the actual eyes, or something in the brain, or what, but I have got rather an uncanny habit of recording things unconsciously. You know that game where you look at a tray full of small objects for three minutes, and then turn away and try to make a list of them. It means a devil of a lot of concentration for the ordinary person, if he wants to get his list complete, but in some odd way I manage to do it without concentration at all." "I should think that's rather a useful gift for an amateur detective. You ought to have gone into the profession before."

"Well, it is rather useful. I'm rather surprised, you know, to be

## RADIO PRIMER

COPPER PYRITE—Copper ore containing iron occurring in several forms. It is used in radio as a low potential rectifier crystal, in conjunction with zincite.

stranger, it's surprise Cayley with it, shall we?"

"How?" "Well, let's ask him—" Anthony stopped and looked at Bill comically. "Let's ask him what he's going to do with the key of the office."

For a moment Bill did not understand. "Key of the office?" he said vaguely. "You don't mean—Tony! What do you mean? Good God! do you mean that Cayley—But what about Mark?"

"I don't know where Mark is—that's another thing I want to know—but I'm quite certain that he hasn't got the key of the office with him. Because Cayley's got it."

"Are you sure?" "Of course, I don't really know that he's got it, but I do know that he had it. I know that when I came on him this afternoon, he had just locked the door and put the key in his pocket."

"You mean you saw him at the time, but that you've only just remembered it—reconstructed it—in the way you were explaining just now?"

"No, I didn't see him. But I did see something. I saw the key of the billiard-room."

"Where?" "Outside the billiard-room door."

"Outside. But it was inside when we looked just now."

"Exactly."

"Who put it there?" "Obviously Cayley."

"But—" "Let's go back to this afternoon. I don't remember noticing the billiard-room key at the time; I must have done so without knowing. Probably when I saw Cayley hanging at the door I may have wondered subconsciously whether the key of the room next to it would fit. Well, when I was sitting out by myself on that seat just before you came along, I went over the whole scene in my mind, and I suddenly saw the billiard-room key there—outside. And I began to wonder if the office key had been outside too. When Cayley came up, I told you my idea and you were both interested. But Cayley was just a shade too interested. I

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dare say you didn't notice it, but he was."

"By Jove!" "Well, of course that proved nothing; and the key business didn't really prove anything, because whatever side of the door the other keys were, Mark might have locked his own private room from the inside sometimes. But I piled it on, and pretended that it was enormously important, and quite altered the case altogether, and having got Cayley thoroughly anxious about it, as I expected, he couldn't resist. He altered the keys and gave himself away entirely."

"But the library key was still outside. Why didn't he alter that?" "Because he's a clever devil. For one thing, the inspector had been in the library, and might possibly have noticed it already. And for another—" Anthony hesitated.

"What?" said Bill, after waiting for him to go on.

"It's only guesswork. But I fancy that Cayley was thoroughly upset about the key business. He didn't want to commit himself definitely to the statement that the key was either outside or inside. He wanted to leave it vague. It was safest that way."

"I see," said Bill slowly. But his mind was elsewhere. He was wondering suddenly about Cayley.

"Now then, Watson," said Anthony suddenly. "It's time you said something."

"I say, Tony, do you really mean it?" "I mean what I said, Bill. No more."

"Well, what does it amount to?" "Simply that Robert Ablett died in the office this afternoon, and that Cayley knows exactly how he died. That's all. It doesn't follow that Cayley killed him."

"No. No. Of course it doesn't." Bill gave a sigh of relief. "He's just shielding Mark, what?"

"That's the simplest explanation if you're a friend of Cayley and want to let him down lightly. But then I'm not, you see."

"Why isn't it simple, anyhow?" "Well, let's have the explanation then, and I'll undertake to give you a simpler one afterward. Only remember—the key is on the outside of the door to start with."

"Yes; well, I don't mind that. Mark goes in to see his brother, and they quarrel and all the rest of it; just as Cayley was saying. Cayley hears the shot, and in order to give Mark time to get away, locks the door, and pretends that Mark has locked it, and that he can't get in. He's that?"

"Hopeless, Watson, hopeless."

"Why?" "How does Cayley know that it is

Mark who has shot Robert, and not the other way round?"

"Oh!" said Bill, rather upset. "Yes." He thought for a moment. "All right. Say that Cayley has gone into the room first, and seen Robert on the ground."

"Well, there you are."

"And what does he say to Mark? That it's a fine afternoon, and could he lend him a pocket-handkerchief? Or does he ask him what's happened?"

"Well, of course, I suppose he asks what happened," said Bill reluctantly.

"And what does Mark say?" "Explains that the revolver went off accidentally during a struggle."

"Whereupon Cayley shields him by—by doing what, Bill? Encouraging him to do the damndest thing that any man could possibly do—confess his guilt by running away?" (Continued in Our Next Issue)

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